

REMARKS

The Applicant sincerely appreciates the thorough examination of the present application as evidenced by the Office Action of August 9, 2005. In particular, the Applicant appreciates the Examiner's indication that Claims 1-19 are allowed. In response, the Applicant has amended Claims 20-22, 24-25, 30-34, and 36-40 to provide further clarification thereof; and canceled Claims 28 and 41-42. The Applicant has also amended Claims 1 and 15 to correct minor informalities noted therein. The amendments of Claims 1 and 15 do not affect the scope of these claims because the amendments have not been made for reasons relating to patentability.

In the following remarks, the Applicant will show that all claims are patentable over the cited art. A Notice of Allowance is thus respectfully requested in due course. Moreover, the Applicant notes that claims have been canceled and amended to advance prosecution of the present application without prejudice to the Applicant's right to pursue canceled and/or unamended claims in a continuing application.

All Objections To The Drawings Have Been Overcome

The Office Action has objected to Figure 5A stating that "Figure 5A should be designated by a legend such as –Prior Art—because only that which is old is illustrated." In response, the Applicant submits herewith new formal drawings with Figure 5A labeled "PRIOR ART" in compliance with 37 C.F.R. 1.121(d). The new formal drawings are attached hereto with each sheet thereof being labeled "Replacement Sheet" in compliance with 37 CFR 1.121(d). Accordingly, all objections to the drawings have been overcome.

Claims 20-27 And 29 Are Patentable Over The Cited Art

Claims 20-29 as originally filed were rejected under 35 U.S.C. Sec. 102(b) as being anticipated by U.S. Patent No. 6,127,840 to Coteus *et al.* (Coteus). The Applicant respectfully submits, however, that pending Claims 20-27 and 29 are patentable over Coteus for at least the reasons discussed below.

Claim 20, for example, has been amended to include all recitations of Claim 28 and to clarify that the first voltage is less than the second voltage. More particularly, Claim 20 recites a termination circuit which reduces ringing and dynamic current, which occur when an input signal is transmitted through a transmission line to an input node, the termination circuit including:

- a first switching unit which includes a first termination resistor used to form a path for current flow between the input node and a first voltage when a voltage level of the input signal is at a first level; and

- a second switching unit which includes a second termination resistor used to form a path for current flow between the input node and a second voltage when the voltage level of the input signal is at a second level,

- wherein the first voltage is less than the second voltage,

- wherein the first level is high and the second level is low,

- wherein termination resistance of the first and second switching units are maintained level to a resistance of the transmission line when the voltage level of the input signal is changed.

According to Claim 20, the first switching unit forms a path for current flow between an input node and a first (low) voltage when a voltage level of the input signal is at a first (high) level, and the second switching unit forms a path for current flow between the input node and a second (high) voltage level when the voltage level of the input signal is at a second (low) level. Operation of the first and second switching units of Claim 20 is thus opposite that of Coteus. In Figure 2 of Coteus, the node 30 is coupled through the resistor 38 and transistor 36 to the low voltage V_{SS} when the voltage level of the node 30 is low, and the node 30 is coupled through the resistor 34 and the transistor 32 to the high voltage V_{DD} when the voltage level of the node 30 is high.

For at least the reasons discussed above, the Applicant respectfully submits that Claim 20 is patentable over the cited art. Moreover, Dependent Claims 22-27 and 29 are patentable at least as per the patentability of Claim 20 from which they depend.

Claims 30-40 And 43 Are Patentable Over The Cited Art

Claims 30-43 as originally filed were rejected under 35 U.S.C. Sec. 102(b) as being anticipated by Coteus. The Applicant respectfully submits, however, that pending Claims 30-40 and 43 are patentable over Coteus for at least the reasons discussed below.

As amended, for example, Independent Claim 30 recites a termination circuit which reduces ringing and dynamic current which occur when an input signal is transmitted through a transmission line to an input node, the termination circuit including:

- a first termination unit which includes a first termination resistor coupled between the input node and a ground voltage allowing impedance matching at the input node to be performed by using the ground voltage when a voltage level of the input signal at the input node is high; and

- a second termination unit which includes a second termination resistor coupled between the input node and a supply voltage allowing impedance matching at the input node to be performed by using the supply voltage when a voltage level of the input signal at the input node is low,

- wherein termination resistance of the first and second termination units are maintained level to a resistance of the transmission line when the voltage level of the input signal changes.

Claim 30 has thus been amended to clarify that impedance matching at the input node is performed using the ground voltage when a voltage level of the input signal at the input node is inverted to high, and that impedance matching at the input node is performed using the supply voltage when a voltage level of the input signal at the input node is inverted to low. In Figure 2 of Coteus, the outputs of the inverters 40 and 42 do not provide a same node. To the extent that the node 30 is interpreted as an input node in Figure 2 of Coteus, the node 30 is coupled through resistor 38 and transistor 36 to reference voltage VSS when the voltage at the node 30 is low, and the node 30 is coupled through resistor 34 and transistor 32 to supply voltage VDD when the voltage at the node 30 is high. The circuit of Figure 2 of Coteus thus teaches away from the termination circuit of Claim 30.

For at least the reasons discussed above, the Applicant respectfully submits that Claim 30 is patentable over the cited art. In addition, Claim 36 is patentable over Coteus for reasons similar to those discussed above with respect to Claim 30. In addition, Dependent Claims 31-35, 37-40, and 43 are patentable at least as per the patentability of Claims 30 and 36 from which they depend.

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CONCLUSION

Accordingly, the Applicant submits that all pending claims in the present application are in condition for allowance, and a Notice of Allowance is respectfully requested in due course. The Examiner is encouraged to contact the undersigned attorney by telephone should any additional issues need to be addressed.

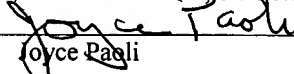
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